

Remarks

Claims 1, 4, 5, 12, 13 And 20, As Amended, Are Not Anticipated By U.S. Patent No. 6,193,721 Of Michelson.

The Michelson patent describes a plurality of anterior cervical plates which are provided with locking mechanisms by which a plurality of bone screws may be locked in place. Each of the locking mechanisms of a Michelson anterior cervical plate is mounted to the plate in such a manner as to be pivotable about a pivot axis to lock two or more bone screws in place. In every embodiment described in the Michelson patent, the locking mechanism includes a single tool receiving opening that is axially aligned with the pivot axis and adapted to receive a driving tool for grasping and pivoting the locking mechanism. In contrast, Applicant's invention, as described in claims 1, 4, 5 and 12, as amended, requires a locking element which includes tool engaging means offset from the pivot axis for grasping and pivoting the locking element. Furthermore, Applicant's claim 12, as amended, requires that the tool engaging means comprises a pair of tool receiving openings that are offset from the pivot axis.

With respect to claims 13 and 20, the Office Action states that the Michelson patent "discloses a device having at least one tool opening (24/27) for receiving a tool to turn the locking element and a positive positioning structure (220) to positively position the element in a second position." However, item (220) of the Michelson patent is a driving tool that is not a part of the anterior cervical plate assembly. In contrast, Applicant's claims 13 and 20, as amended, require that the anterior cervical plate include a first positive positioning structure on the locking element which engages with a second positive positioning structure on the plate to hold the locking element in the second position. Since there is nothing in the Michelson patent which discloses or suggests a

cervical plate having a locking element which includes tool engaging means offset from the pivot axis for grasping and pivoting the locking element, as required by Applicant's claims 1, 4, 5 and 12, as amended, these claims are not anticipated by the Michelson patent. Furthermore, claim 12 is also not anticipated by the Michelson patent because there is nothing in such patent which discloses or suggests a cervical plate having a locking element which includes tool engaging means comprising a pair of tool receiving openings in the locking element for receiving a tool to turn the locking element between the first and second positions. Finally, since there is nothing in the Michelson patent which discloses or suggests an anterior cervical plate having a first positive positioning structure on the locking element which engages with a second positive positioning structure on the plate to hold the locking element in the second position, as required by Applicant's claims 13 and 20, as amended, these claims are also not anticipated by the Michelson patent. Applicant respectfully requests, therefore, that this §102(b) rejection of his claims be withdrawn, and that claims 1, 4, 5, 12, 13 and 20, as amended, be allowed.

Claims 2, 3, 18 And 19 Are Patentable Over Any Combination Of U.S. Patent No. 6,193,721 Of Michelson And U.S. Patent No. 6,571,671 Of Gianetti.

Claims 2, 3, 18 and 19 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,193,721 of Michelson in view of U.S. Patent No. 6,571,671 of Gianetti.

Claims 2 and 3 depend (directly or indirectly) from claim 1, and claims 18 and 19 depend from claim 13. As pointed out above, claims 1 and 13 are patentable over the Michelson patent.

Consequently, and for the same reasons, the anterior cervical plates described by claims 2, 3, 18 and 19 are not suggested by or rendered obvious by the Michelson patent.

U.S. Patent No. 6,571,671 of Gianetti describes a tool holding assembly for machine tools such as lathes which includes a plurality tool holders for metal working tools. Applicant questions whether the Gianetti reference should properly be considered as prior art applicable to his invention. As the CCPA explained in *In re Wood*,

In resolving the question of obviousness under 35 U.S.C. 103, we presume full knowledge by the inventor of all the prior art in the field of his endeavor. However, with regard to prior art outside the field of his endeavor, we only presume knowledge from those arts reasonably pertinent to the particular problem with which the inventor was involved. The rationale behind this rule precluding rejections based on combination of teachings of references from nonanalogous arts is the realization that an inventor could not possibly be aware of every teaching in every art. Thus, we attempt to more closely approximate the reality of the circumstances surrounding the making of an invention by only presuming knowledge by the inventor of prior art in the field of his endeavor and in analogous arts. 599 F. 2d 1032, 1036 (CCPA 1971).

The Gianetti reference, having to do with "machine tools such as lathes and the like" (column 1, lines 8-9), is clearly not within the field of Applicant's endeavor. Therefore, it may only be considered prior art if it is reasonably pertinent to the particular problem with which the inventor was involved. According to the Federal Circuit, a reference is reasonably pertinent to the particular problem with which the inventor was involved if "it is one which, because of the matter with which it deals, logically would have commended itself to the inventor's attention in considering his problem.... If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem." *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

Claims 2, 3 18 and 19 all describe a cervical plate assembly in which one of the plate or the locking element has a raised boss that is pivotally mounted on or through a hole in the other component.

The problem which this combination of a raised boss and a cooperating hole relates to is the problem of providing pivotal movement of the locking element with respect to the plate.

The Gianetti reference describes a tool holding assembly that is adapted to being rotated to any of several selected positions, each of which operatively positions a selected metal working tool with respect to a rotating workpiece. A single actuating handle unlocks an indexing mechanism during a first rotational increment of handle movement and rotates the tool holding assembly to a selected position during another rotational increment of handle movement. An oppositely directed rotational increment of handle movement then locks the tool holding assembly in the selected position.

Handle 36 is attached to actuator 26 which defines a generally planar surface 32 which is disposed in bearing engagement with an angular, generally planar surface 34 of indexing head 20. Within surface 34 are located four arcuate indexing recesses 56, each of which defines an inclined arcuate ramp 58 which is engaged by a spring-loaded detent member 60. The Office Action states that the purpose of the interface between the detent members and the indexing recesses "is to provide a tighter, locking fit as the two portions pivot relative to one another", and that consequently, "it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Michelson having at least a boss extending into a hole in the plate in view of Gianetti to better secure the locking portion relative to the plate." However, the claimed structures recited in claims 2, 3, 18 and 19 do not relate to securing the locking element relative to the plate, but instead relate to the provision or facilitation of pivoting motion between two components. Therefore, the subject matter of the Gianetti patent would not have logically commended itself to Applicant's attention in considering his problem relating to the provision or

facilitation of pivoting motion between the locking element and the plate. Therefore, the Gianetti reference is not applicable to the invention described in Applicant's claims 2, 3, 18 and 19.

Notwithstanding the foregoing, neither the Michelson patent, nor the Gianetti patent, nor any combination of the two, describes, suggests or renders obvious Applicant's anterior cervical plate having a locking element which includes tool engaging means offset from the pivot axis for grasping and pivoting the locking element, as required by Applicant's claims 2 and 3, as amended, or an anterior cervical plate having a first positive positioning structure on the locking element which engages with a second positive positioning structure on the plate to hold the locking element in the second position, as required by Applicant's claims 18 and 19, as amended. Therefore, Applicant requests that this §103 rejection of his claims be withdrawn, and that claims 2, 3, 18 and 19, as amended, be allowed.

Applicant believes that the cited structures from the Gianetti patent relate to the indexing of a pivoting structure with respect to another, so that tools may be precisely positioned with respect to a workpiece. Therefore, even if the Gianetti reference is considered for application to Applicant's claims which relate to positively positioning or holding the pivoting locking plate in the second position with respect to Applicant's plate, Applicant believes that this reference is not reasonably pertinent to the particular problem with which the inventor was involved. Consequently, Applicant suggests that Gianetti is not properly citable as prior art in a §103 rejection of any of Applicant's claims.

Claims 6-11 And 14-17, As Amended, Are Patentable Over Any Combination Of U.S. Patent No. 6,193,721 Of Michelson And U.S. Patent No. 5,439,472 Of Evans Et Al.

Claims 6-11 and 14-17 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,193,721 of Michelson in view of U.S. Patent No. 5,439,472 of Evans et al.

The Michelson patent is described above. Claims 6-11 depend (directly or indirectly) from claim 1, and claims 14-17 depend (directly or indirectly) from claim 13. As pointed out above, claims 1 and 13 are patentable over the Michelson patent. Consequently, and for the same reasons, the anterior cervical plates described by claims 6-11 and 14-17 are not suggested by or rendered obvious by the Michelson patent.

U.S. Patent No. 5,439,472 of Evans et al. describes a surgical saw having a chuck-mounted blade. The chuck 11 includes facing tip and bottom casing members 50 and 51. Bottom casing member 51 is attached to shaft 31. The chuck has a slot 55 formed by groove 56 extending centrally in the bottom face 60 of the top member, which slot is adapted to receive the rear portion of blade 12. The groove has sidewalls 62 and a central flat 61 which is depressed from but parallel to the plane of bottom face 60. A pair of pins 63 are fixed to the central flat of the groove and extend about half the depth of the slot 55. A hole 75 is located in the top member in front of pins 63 and is adapted to receive the upper end of locking spindle 105. The lower end of the locking spindle is spring-loaded in a hole in the bottom casing member. A shoe cover 86 overlies a circular disk-shaped shoe 85 which includes a pair of ramps 93. The shoe cover includes a pair of slots 96 through which the ramps extend. Pins 63 are aligned with the ramps 93 and slots 96 but do not move with respect thereto, as shown in Figures 5A-5E. The rear end of a blade is adapted to be slid into the slot 55 to be chucked in the Evans device. The rear end of such blade must include a slot 132 that is adapted

to engage locking spindle 105, and the side portions of the rear end of the blade ride up the ramps 93 until they abut against pins 63 as the slot 132 engages the locking spindle 105. Thus, the Evans device employs a sliding action of the blade to be chucked into slot 55 in order to securely attach the blade to the chucking device.

The Office Action states that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Michelson having at least one projection and an opposing receiving area that uses a ramp in view of Evans et al. to more firmly secure and align the two parts of the device in use." However, Applicant's claims 6, 10, 14 and 15 do not require a ramp. In addition, as pointed out above, the pins 63 (or projections) of the Evans device do not move with respect to ramps 93 and do not snap into a recess. Consequently, Applicant fails to see how the Evans patent can be said to teach or suggest the cooperation of a projection on one component and a recess on another component, wherein the recess is positioned to receive the projection and thereby snap the locking element onto the receiving area when the locking element is in the second position, as required by Applicant's claims 6-11, as amended. Furthermore, Applicant fails to see how the Evans patent can be said to teach or suggest the cooperation of a projection on one component and a recess on another component, wherein the projection and the recess are positioned to hold the locking element is in the second position, as required by Applicant's claims 14-17, as amended.

Applicant believes that a person having ordinary skill in the art to which the invention relates would find it difficult (and therefore, not obvious) to combine the sliding locking feature of the Evans chuck (in which pins 63 are fixed with respect to ramps 93) with the pivoting locking feature of the

Michelson cervical plate. However, even if such a combination of the Evans and Michelson patents were made, the resulting cervical plate would nevertheless employ the locking element of Michelson which includes a single tool receiving opening that is axially aligned with the pivot axis and adapted to receive a driving tool for grasping and pivoting the locking mechanism. Such a combination would not function as does Applicant's claimed cervical plate of claims 6-11, as amended, and consequently, Applicant's claimed cervical plate would not be an obvious variant thereof.

No combination of the Evans and Michelson references teaches, suggests or renders obvious an anterior cervical plate having a locking element that is pivotally mounted on a receiving area of a plate wherein one of the receiving area and the bottom of the locking element has a projection and the other of the receiving area and the bottom of the locking element has a recess which is positioned to receive the projection and thereby snap the locking element into the recess when the locking element is in the second position, as required by Applicant's claims 6-10, and 14-16, as amended. Furthermore, there is nothing in either the Michelson or the Evans patents which discloses, suggests or renders obvious a cervical plate having a pivotally mounted locking element which has a pair of recessed ramps on the bottom thereof to ride up over projections on the receiving area of the plate to permit the projections to snap into place in the recesses, as required by Applicant's claims 11 and 17, as amended. Applicant respectfully requests, therefore, that this §103(a) rejection of his claims be withdrawn, and that claims 6-11, and 14-17, as amended, be allowed.

Applicant respectfully submits that all of his claims, as now submitted, are patentable over the prior art references cited in the Office Action, including those made of record but not relied upon.

Applicant requests therefore that the rejections of his claims be withdrawn and that claims 1-20, as amended, be allowed.

Respectfully submitted,



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